

the two seasons ($P > 0.05$). The trophic niche width of voles was 1.32 in spring, 1.69 in summer, and 1.92 in autumn. Likewise the trophic niche width of pikas increased from summer (1.61) to autumn (1.93). The trophic niche width of the voles differed between spring and autumn ($P < 0.05$), but neither voles nor pikas had significantly different trophic niche widths between summer and autumn ($P > 0.05$). The voles selected more main food items in autumn than in spring, and the voles consumed more monocotyledons in spring (91.4%) than in autumn (37.2%) (Tab. 1). Selection for more food plant species and more even contributions of dicotyledons and monocotyledons in the autumn diet resulted in broader trophic niche of the voles in autumn than in spring. Although the standing crop biomass of the steppes of Inner Mongolia reaches its highest in autumn (LI et al. 1988), the food quality of plants in autumn may be low. Mature plants in grasslands generally have higher fiber content, decreased protein, and increased phenolic content that voles tend to avoid (LINDROTH et al. 1986; MARQUIS and BATZLI 1989). The reduction of food quality could lower the availability of food plants in autumn. Consequently, the voles expanded their trophic niche in autumn to respond to the low availability of food. The trophic niche width was not different between the voles and pikas either in summer or in autumn ($P > 0.05$).

BERGMAN and KREBS (1993) found that the overlap of the diets of collared lemming (*Dicrostonyx kilangmiutak*) and tundra voles (*Microtus oeconomus*) increased when both species foraged in the same habitat. Overlap index of food utilization of voles and pikas under the food selection trial was 0.45 (computed from data of ZHONG et al. 1982 and ZHOU et al. 1992), while the overlap of trophic niche in the free-ranging conditions was 0.54 in summer. The voles and pikas had overlapping habitat use on our study site. The greater overlap under the free-ranging conditions might result from the lower availability of preferred food plants of pikas in natural

vegetation and higher percent of *A. chinense* in the pika's natural summer diet. *A. chinense* made up 6% of daily food consumption in the food selection trial (ZHONG et al. 1982), but 56.4% of the natural diet of pikas in summer. The lower availability of preferred *P. bifurca*, *A. bidentatum*, and *A. commutata* might force the pikas to use the more abundant *A. chinense*, one of the dominant plant species in the plant community on the study site. The limited availability of preferred food items in natural vegetation may cause the voles and pikas to share more common and abundant plant species and may result in greater trophic niche overlap under the free-ranging condition.

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Short communication

Records of a few rare mammals from northeastern Peru

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During 18 months (July 1997 to December 1998) small-mammals were collected near Iquitos, Peru, for certain research projects. Sampling was conducted at the Estación Biológica Allpahuayo (S 3°58'; W 73°25'), a 3000 hectare field station operated by the Instituto de Investigaciones de la Amazonía Peruana (IIAP), 25 km south of Iquitos, Department of Loreto, in northeastern Peru. The climate is tropical with a mean annual temperature of 26°C; the highest average monthly temperature (31°C) occurs in November and the lowest (22°C) in July (SALATI 1985). Average rainfall is 2945 mm per year, with a slightly drier season from June to September (JOHNSON 1976). The elevation of the station ranges from 110 m to 180 m above sea level.

Over 1000 mammals were collected and prepared. Concerning our knowledge on their distribution several of these specimens represent substantial range extensions for a few species, whereas others are records of mammals not frequently recorded in mammalian surveys. The following accounts summarize information about the species of this region not yet recorded as well as what is already known about the species distributions (EMMONS 1997; EISENBERG and REDFORD 1999). Any measurements (mm) are given using the standard sequence of to-

tal length, tail length, hind foot length, and ear length. Specimens are deposited at the Museum of Texas Tech University, Lubbock, Texas, and the Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos, Lima, Peru. Preserved tissues (frozen) include heart, kidney, liver, spleen, lung, and muscle and are deposited at the Museum of Texas Tech University.

Philander opossum (Linnaeus, 1758) and *Philander andersoni* (Osgood, 1913)

The occurrence of these two species of opossum in the study area represents the first record of sympatry, as well as the first record of *P. opossum* north of the Amazon River this far east of the Andes (EMMONS 1997). FLECK and HARDNER (1995) also reported sympatry of these species in Jenerro Herrera, south of the Amazon River. However, Dr. J. L. PATTON of the University of California, Berkeley, examined photographs of the animals and determined that the *P. andersoni* had been misidentified and were in fact *P. mcilhennyi* (pers. comm.). The species identity of my specimens has been verified by cytochrome b sequence analysis conducted by Dr. PATTON. All 39 *P. opossum* were captured in disturbed habitat whereas 12 of 14 *P. andersoni* were cap-